Tyson Wash

Boundaries:

The site is bounded approximately by the groundwater plume which extends 300 feet to the north of Cowell Lane to the north, 400 feet east of Washington Boulevard to the east, 300 feet south of Cowell Lane to the south, and 200 feet west of Oregon Avenue to the west. The known groundwater contamination exists northwest of the intersection of State Hwy 95 and Business Route I-10 in the town of Quartzsite, Arizona.

Site History:

- In August 1995, ADEQ collected a groundwater sample from the private drinking water well at the Welcome RV Park. Analytical results indicated tetrachloroethene (PCE) concentrations in the wells at 200 micrograms per liter (•g/l) and trichloroethene (TCE) concentration at 6.2 •g/l.

- Additional site investigations were conducted between 1996 and 1998. ADEQ investigated the Welcome RV Park, Hi-Ali property, and the Cast property. Soil and soil vapor samples were collected at each of the properties in an effort to determine the source of contamination. Groundwater samples were collected from the private wells on the properties. ADEQ also installed temporary wells to collect groundwater samples.

- ADEQ and LaPaz County held a public meeting in the Town of Quartzsite on September 25, 1996. The purpose of the meeting was to inform the community about the current drinking water and groundwater issues.

- In April 1992, ADEQ installed three groundwater wells in the vicinity of the Welcome RV Park.

- In March 1998, ADEQ installed two additional groundwater wells at the Tyson Wash WQARF site.

- The site was placed on the WQARF Registry in December 1998 with an eligibility and evaluation score of 46 out of a possible 120.

- In September 1999, ADEQ began the remedial investigation (RI) activities. The RI activities included installing five additional wells, completion of a health consultation to address the potential risk and completion of a groundwater flow and transport model.

- The health consultation indicated that the health risk from potential exposures at the site was within EPA=s acceptable range. ADEQ began providing bottled water to the residents within the Tyson Wash WQARF site in December 2000, to prevent further exposure to the contaminants. In addition, signs warning of poor water quality were posted at each location where public access to the groundwater was possible. In-line water filters were provided to

two residents whom were located on the outer edge of the plume.

- In March 2002, ADEQ discontinued providing bottled water to the residents because residents within the Tyson Wash WQARF area were connected to the Town of Quartzsite water supply.

- In October 2002, the draft RI report was completed and submitted for public comment. No comments were received. The report was finalized in June 2003.

- ADEQ began an early response action (ERA) at the site in August 2002. The ERA was initiated to provide source control and remediate the groundwater beneath the site.

- ADEQ installed two extraction and one injection well as part of the pump and treat remediation system. The remediation system was installed and startup began in March 2003.

- ADEQ evaluated the use of bioremediation at this site to be used in conjunction with the pump and treat system. After ADEQ's evaluation it was determined that Bioremediation at this site is currently not feasible.

- A pilot study was completed in October 2003. The results indicate that the pump and treat system has been effective at reducing the contaminants in the treatment area.

- Two groundwater monitor wells were installed on the Hi-Ali property in September 2004 to determine sources of groundwater contamination.

- In September 2005, an additional three extraction wells and one injection well were installed at the Tyson Wash WQARF Site as an expansion to the treatment system in order to obtain capture of the contamination plume.

Site Status:

The pump and treat system at the site continues to operate and has reduced PCE and TCE contamination in the treatment area. The concentration of PCE has also been reduced in the domestic well located within the treatment area, on the Welcome RV Park property. In November 1995, the PCE concentration in the domestic well was approximately 200 μg/L. In February 2005, the concentration of PCE in the domestic well was detected at approximately 30 μg/L. The aquifer water quality standard (AWQS) for PCE and TCE is 5 •g/l.

Site Hydrogeology:

- Subsurface soils at the site consist of two main units. Interbedded layers of well-cemented gravel, sand, silt, and clay exist from approximately ground surface to 70 feet bgs. Below 70 feet the soils consist of silty clay to clay, with the estimated clay percentage ranging from 50 percent to nearly 100 percent.

- The groundwater system in the vicinity of Quartzsite consists of a shallow and a deep aquifer. The shallow aquifer exists from approximately 45 to 70 feet bgs. The depth to groundwater in the deep aquifer is encountered at approximately 400-500 feet bgs. The shallow aquifer beneath the Tyson Wash WQARF site has been impacted by PCE and TCE contamination.

- The depth to groundwater beneath the site ranges from approximately 41 to 55 feet below ground surface (bgs). In March 2002 the direction of groundwater was to the north/northeast. In September 2003 the direction of groundwater was to the north. The Town of Quartzsite is currently providing Town water and sewer to the residents within the Tyson Wash site. Due to the residents receiving the Town water, their private well use has declined. The decline in use of the water in the shallow aquifer has indicated that the direction of groundwater flow may be towards the north/northwest along Tyson Wash.

Contaminants:

The current contaminants of concern in groundwater include PCE and TCE. Contaminants of concern at the site may change as new data become available.

Public Health Impact:

The PCE contamination currently appears to be limited to groundwater in the upper aquifer located approximately 40 to 70 feet below the land surface. This aquifer is used as a source of drinking water for the area. There are 544 registered private wells within an approximately one-half mile radius of the site. Nineteen privately owned wells are located within, or on properties located immediately adjacent to the site. Seven of the wells have been impacted by the volatile organic compound (VOC) plume under investigation by ADEQ. An additional nine wells are considered to be threatened by the plume. The residents within the WQARF site are connected to the town of Quartzsite water system. Groundwater from the impacted wells may be used for irrigating yards and trees. The lower aquifer, 500 feet below ground surface, has shown no evidence of contamination to date.

A human health consultation was completed for the site in October 2000. Based on this report, signs warning of non-potable water were posted at locations where public access to contaminated water is possible (e.g., outdoor spigots). Drinking water is provided by the Town of Quartzsite and must meet all state and federal drinking water standards.

Community Involvement Activities:

A community advisory board (CAB) has been formed for the site and meets on a regular basis. These meetings are open to the public. The CAB meeting agendas and minutes can be viewed at: http://azdeq.gov/environ/waste/sps/reg.html.

Information Repository:

Interested parties can review site information at the information repository at the Quartzsite Library located at 465 N. Plymouth Avenue in Quartzsite, (928) 927-6593. With 24 hour notice, an appointment to review relating documentation is available Monday through Friday from 8:30 a.m. to 4:30 p.m., at the ADEQ Records Management Center, 1110 W. Washington Street in Phoenix, Arizona. Please contact (602) 771-4380 or (800) 234-5677 to schedule an appointment to review these documents.

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*In Arizona, but outside the Phoenix area, call toll-free at (800) 234-5677.